

Serial No. **10/577,429**
Amendment dated April 6, 2010
Reply to Office Action of December 8, 2009

Docket No. **P-0777**

Amendments to the Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

1. (Canceled).

2. (Currently Amended) A method for controlling an operation of a compressor of a refrigerator, the method comprising:

varying a compression capacity of a compressor installed in a refrigerator by controlling a rotation direction of the compressor according to a load condition of the refrigerator, wherein the compression capacity of the compressor increases when the compressor is rotated in a first rotation direction with respect to a rotational axis of the compressor and decreases when the compressor is rotated in a second rotation direction that is opposite to the first rotation direction, and wherein the controlling the rotation direction of the compressor comprises:

setting an operation range of a temperature sensor that senses a temperature inside the refrigerator according to the rotation direction of the compressor; and

sensing the temperature inside the refrigerator according to the set operation range;

performing a defrosting operation when a temperature inside the refrigerator and a pre-set defrosting temperature are identical;

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when the defrosting operation is terminated, rotating the compressor in the first rotation direction, stopping the compressor, and rotating the compressor in the second rotation direction at pre-set time periods;

when an operation mode of the refrigerator is selected by a user, selecting the rotation direction of the compressor according to an amount of cooling air supply corresponding to the selected operation mode, and controlling a rotation speed of the compressor in the selected rotation direction by varying an operation frequency of the compressor based on a temperature inside the refrigerator;

when the operation mode of the refrigerator selected by the user is a power saving operation mode, rotating the compressor in the second rotation direction, and when the temperature inside the refrigerator is higher than a first pre-set temperature, rotating the compressor in the first rotation direction; and

when the operation mode of the refrigerator selected by the user is a standard operation mode, rotating the compressor in the ~~first~~operation rotation direction, and when the temperature inside the refrigerator reaches the a second pre-set temperature, rotating the compressor in the second rotation direction.

3.-4. (Canceled).

5. (Previously Presented) The method of claim 2, further comprising:

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when the compressor is rotated in the first rotation direction according to the operation mode of the refrigerator, detecting a current applied to the compressor, and if the detected current is greater than a pre-set reference current, rotating the compressor continuously in the first rotation direction, and if the detected current is smaller than the reference current, turning off the compressor; and

when the compressor is rotated in the second rotation direction according to the operation mode of the refrigerator, detecting a current applied to the compressor, and if the detected current is smaller than the pre-set reference current, rotating the compressor continuously in the second rotation direction, and if the detected current is greater than the pre-set reference current value, turning off the compressor.

6. (Previously Presented) The method of claim 2, further comprising:

sensing the rotation direction of the compressor; and

if the rotation direction of the compressor needs to be changed according to a change of a temperature of the refrigerator, stopping the operation of the compressor for a predetermined time period and then changing the rotation direction of the compressor.

7.-8. (Canceled).

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9. (Currently Amended) The method of claim-8_2, wherein when the compressor is rotated in the first rotation direction, the operation range of the temperature sensor is - $0.5^{\circ}\text{C} \sim +0.5^{\circ}\text{C}$.

10. (Currently Amended) The method of claim-8_2, wherein when the compressor is rotated in the second rotation direction, the operation range of the temperature sensor is - $0.3^{\circ}\text{C} \sim +0.3^{\circ}\text{C}$.

11. (Currently Amended) The method of claim-8_2, wherein a refrigerant amount of the refrigerating cycle of the refrigerator is set as an amount of a refrigerator of the compressor when the compressor is rotated in the second rotation direction.

12. (Currently Amended) The method of claim-8_2, wherein a refrigerant amount of the refrigerating cycle of the refrigerator is calculated when a temperature of an evaporator of the refrigerator and a temperature of an entrance of the evaporator are identical while the compressor is being rotated in the second rotation direction, and the calculated refrigerant amount is set as a refrigerant amount of the compressor.

13.-35. (Canceled).

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36. (New) The method of claim 2, wherein the first pre-set temperature and the second pre-set temperature are set by the user.

37. (New) The method claim 36, wherein the first pre-set temperature is 4 °C.

38. (New) The method of claim 37, wherein the second pre-set temperature is 6 °C.